

REMARKS

This application has been carefully reviewed in light of the Office Action dated March 11, 2009. Claims 1 and 3 to 18 are pending in the application, of which Claims 1, 13 and 14 are independent. Reconsideration and further examination are respectfully requested.

Claims 1, 3 to 11 and 13 to 18 were rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. In particular, the Office Action alleged that Claims 1, 3 to 11 and 13 to 18 are directed to non-statutory subject matter because they merely manipulate an abstract idea without a claimed limitation to produce a useful, concrete, tangible result. In addition, the Office Action alleged that Claims 1, 3 to 11 and 15 to 18 do not fall within one of the four statutory categories of invention. More specifically, the Office Action alleged that these claims recite a series of steps to be performed, but are not tied to a manufacture or machine, or transform the underlying subject matter. Without conceding the correctness of the rejections, Claim 1 has been amended to recite “using a processor to perform the steps of” and “a storing step of storing the feature extracted from the second layer in a memory”, Claim 13 has been amended to recite “storing means for storing the feature extracted from the second layer in a memory”, and Claim 14 has been amended to recite “a storing step of storing the feature extracted from the second layer in a memory”. Accordingly, the § 101 rejections are believed to be obviated, and reconsideration and withdrawal of the rejections are respectfully requested.

Claims 1, 3 to 7 and 9 to 18 were rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2002/0181765 (Mori) in view of U.S. Patent Application Publication No. 2002/0181775 (Matsugu). Claim 8 was rejected under 35

U.S.C. § 103(a) over Mori in view of Matsugu and further in view of U.S. Patent No. 5,570,434 (Badique). Reconsideration and withdrawal of the rejections are respectfully requested.

Referring specifically to claim language, amended independent Claim 1 is directed to a pattern identification method of identifying a pattern of input data by hierarchically extracting features of the input data. The method includes using a processor to perform the steps of: a first feature extraction step of extracting a feature of a first layer; an analysis step of analyzing a distribution of a feature extraction result in the first feature extraction step; a calculation step of calculating a respective likelihood of extracting a feature from one of a plurality of categories for features of a second layer higher than the first layer on the basis of the distribution analyzed in the analysis step; an activation step of selectively activating at least one extraction module, among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of the category for the feature to be extracted from the second layer is not less than a predetermined value; a second feature extraction step of extracting a feature from the second layer by the selectively activated extraction module; and a storing step of storing the feature extracted from the second layer in a memory.

Amended independent Claims 13 and 14 are directed towards apparatus and computer medium claims, respectively, generally corresponding with the method of Claim 1.

The applied art, alone or in any permissible combination, is not seen to disclose or suggest all the features of Claims 1, 13 and 14, and in particular, is not seen to disclose or suggest at least the features of selectively activating at least one module, from

among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature to be extracted from a second layer is not less than a predetermined value, and extracting a feature from the second layer by the selectively activated extraction module.

Page 6 of the Office Action concedes that Mori does not teach calculating a respective likelihood of a plurality of categories for features of a second layer higher than a first layer on a basis of an analyzed distribution of a feature extraction of the first layer, selecting a category from among the plurality of categories, whose calculated likelihood is not less than a predetermined value, and extracting an only feature which belongs to the selected category from the second layer. Applicants agree, and further submit that in the context of the amended claim language, Mori therefore also cannot disclose or suggest selectively activating at least one module, from among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature to be extracted from a second layer is not less than a predetermined value, and extracting the feature from the second layer by the selectively activated extraction module. Nevertheless, the Office Action asserts that Matsugu (paragraphs [0053] and [0068]) discloses the above-described calculating, selecting, and extracting features of Claims 1, 13 and 14. Applicants respectfully disagree.

In this regard, the cited portions of Matsugu disclose that feature detection layers are connected (interconnected) so that the feature detection layers can receive outputs from feature detection cells, belonging to same channels, in a feature consolidation layer. (See paragraph [0053] of Matsugu). In addition, in a case where no high-order pattern is detected but only a middle order pattern element is detected, a prediction unit of a

time-sequential consolidation module selects one candidate for a high-order pattern and predicts a category and a position of other middle-order patterns that will be detected in a candidate for the high-order pattern. (See paragraph [0066] of Matsugu). If a high-order pattern of a category is detected, in a local area, with an output level higher than a predetermined threshold value, then a detection probability or detection likelihood of the category and position information of an object detected in that local area are output to the time-sequential consolidation module. (See paragraph [0068] of Matsugu). However, Matsugu is not seen to disclose or suggest selectively activating at least one module, from among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature to be extracted from a second layer is not less than a predetermined value, and extracting a feature from the second layer by the selectively activated extraction module.

The remaining applied reference, namely Badique, is not seen to cure the above-described deficiencies of Mori and Matsugu. In this regard, Badique is merely seen to disclose that face recognition is performed using centers of gravity. The centers of gravity located in the face area are combined to form triplets, and it is determined whether these triplets can correspond to the eyes and the mouth of a human face on the basis of their geometrical position. (See column 9, lines 63 to 66 of Badique). However, Badique is not seen to add anything that, when combined with Mori and/or Matsugu, assuming such could be combined, would have resulted in at the least the features of selectively activating at least one module, from among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature to be extracted

from a second layer is not less than a predetermined value, and extracting a feature from the second layer by the selectively activated extraction module.

Accordingly, independent Claims 1, 13 and 14 are believed to be in condition for allowance and Applicants respectfully request same.

The other claims in the application are each dependent from the independent claims discussed above and are therefore believed to be allowable over the applied art for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

As a formal matter, Applicants request that the Examiner provide an indication in the next communication acknowledging Applicants' claim to priority under 35 U.S.C. § 119 and receipt of the certified copy of the priority document. This is a third request.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa,
California office at (714) 540-8700. All correspondence should continue to be directed to
our below-listed address.

Respectfully submitted,

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FCHS_WS 3496392v1